

CLAIM AMENDMENTS

Please amend Claims 1, 2 and 5 as follows.

1. (Currently Amended) A system for *in situ* x-ray study of electrode component performance in a rechargeable electrochemical energy storage cell comprising a combination of opposed polarity electrode members and interposed separator member with electrolyte

characterized in that
 - a) said system comprises means hermetically enclosing said combined electrode, separator, and electrolyte cell components in isolation from ambient atmosphere; and
 - b) said enclosing means comprises an integral x-ray transmissive beryllium window member situated to allow incidence therethrough of such radiation upon an electrode member site under study.

2. (Currently Amended) ~~A system according to claim 1 which comprises: A~~
system for *in situ* x-ray study of electrode component performance in a rechargeable
electrochemical energy storage cell comprising a combination of opposed polarity electrode
members and interposed separator member with electrolyte disposed within a hermetic enclosure
having an integral x-ray transmissive window member situated to allow incidence therethrough
of such radiation upon an electrode member site under study

characterized in that the system comprises:
 - a) a body providing a cylinder for receiving therein components of said cell
member combination;
 - b) sealing means surrounding the proximal end of said cylinder;

c) a base plate providing a radiation access opening situated adjacent said cylinder proximal end and aligned concentrically therewith and within the circumference of said sealing means;

d) said window member being situated intermediate said base plate and said sealing means and extending peripherally beyond said sealing means;

e) Means for removably affixing said base plate to said body and compressing said sealing means against said window to form an hermetic seal therewith;

f) adjustable means situated at the distal end of said cylinder for applying compressive force urging said combination of cell components within said cylinder toward contact with said window member; and

g) means for hermetically sealing said cylinder distal end.

3. (Original) A system according to claim 2 wherein:

a) said body, said base plate, and said electrode member under study are in electrical continuity;

b) said adjustable means comprises an electrically conductive piston member axially displaceable within said cylinder and in electrical continuity with the electrode member of opposed polarity to said electrode member under study; and

c) said cylinder distal end sealing means comprises an electrically insulating ring member fitted to the annular space between said piston member and said cylinder distal end and compressible therein to mechanically fix the axial displacement of said piston member and effect said distal end hermetic seal while electrically insulating said piston from said body.

4. (Original) A system according to claim 3 wherein means situated within the annular space between said piston member and the interior wall of said cylinder electrically insulates said body from cell member components in electrical continuity with said piston.

5.(Currently Amended) A system according to claim 1 further comprising electrically conductive current collector members and wherein:

a) said electrode and separator members comprise polymeric compositions and are laminated, along with the electrically conductive current collector members, to form a unitary battery cell structure;

b) said enclosing means comprises an envelope of polymeric sheet material having said window member hermetically sealed thereto about the periphery of a radiation access opening therein situated adjacent said electrode member study site; and

c) said envelope is closed at its periphery in an hermetic seal about extensions of said current collector members which thereby provide external electrical communication with said enclosed battery cell structure.